

MOLLUSCA FROM VERMILION AND PELICAN LAKES, MINNESOTA, WITH THE DESCRIPTION OF A NEW VARIETY OF *HELISOMA CORPULENTA*

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The mollusk fauna of Minnesota is comparatively little known and additions are to be welcomed. A desire to study the anatomy of *Helisoma corpulenta*, reported by Grant from Vermilion Lake, St. Louis Co., prompted the writer to spend his vacation at this place. The result has been very gratifying, as the following catalogue of species obtained may show. A review of the literature indicates that less than a dozen papers have been written relating wholly to the Minnesota fauna. As this state, like Wisconsin and Michigan, contains a multitude of lakes, large and small, it is obvious that a careful study of these, and of the land area, would yield a large and varied mollusk fauna.

In 1887 (Geol. & Nat. Hist. Survey Minn., p. 481), Dr. U. S. Grant published a paper entitled "Notes on the Molluscan Fauna of Minnesota". This paper deals largely with the mollusks of St. Louis County, and particularly with the species found near Tower, Lake Vermilion. The writer spent two weeks in August, 1928, on Lake Vermilion, his headquarters being Birch Point, from which detailed examination was made of Big Bay and Daisy Bay, lying on either side of the peninsula. Observations were also made as far west as Niles Bay. From this limited examination it is apparent that the region of the lake offers an almost virgin field for future work, not only as it relates to the Mollusca, but also in other fields of the aquatic invertebrates. Leaches, crustacea, bryozoa, and other forms were observed to be very abundant. In Grant's list, 20 species are listed, of which eight were not found by the writer. Thirty-one species were personally collected, of which 19 are not recorded in Grant's list. The combined lists number 39 species of land and fresh water mollusks. It is prob-

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able that this could be quite largely extended with additional collecting. In the following catalog Grant's records are incorporated with the author's. The Sphaeriidae were determined by Dr. V. Sterki.

The collection from Crow Wing County was in the collection of Dr. W. A. Nason (deceased), of Algonquin, Illinois, whose large collection of land and fresh water mollusks was given to the University of Illinois by the heirs of Dr. Nason. Though small, the records add somewhat to the distribution of Minnesota species. The material from Lake Vermilion, collected by the writer, is also in the Museum of the University of Illinois. The list follows:

#### PELECYPODA

*Anodonta grandis footina* Lea. Not common. The few specimens are like those from Winnebago Lake, Wis.

*Anodonta kennicotti* Lea. One specimen from Oak Narrows, near Niles Bay, is referred to this species. It has the characteristic quadrate form and rough sculpture of this northern species.

*Lampsilis siliquoidea rosacca* (De Kay). This is the common mussel of the lake, occurring on sandy or rocky shores in shallow water. None are as abundant as in lakes farther south. Many individuals are smaller and rounder than the *rosacea* of New York, and more nearly approach specimens from northern Michigan and Wisconsin. In some specimens there is a slightly rosy tinge to the nacre.

*Sphaerium crassum* Sterki. Shore debris on Birch Point, Daisy Bay. Not common.

*Sphaerium rhomboideum* (Say). Shore debris, Daisy Bay.

*Musculium truncatum* (Linsley). Swamp behind beach, Birch Point, Big Bay. Common. Not typical but a form of this species (Sterki).

*Sphaerium occidentale* (Prime). Swampy brook behind beach, Daisy Bay. Abundant and typical.

*Pisidium subrotundum* Sterki. Swampy brook behind beach. "Like the types from Ohio" (Sterki). Swamp be-

hind beach, Birch Point, Big Bay. Like Daisy Bay specimens.

*Pisidium adamsi* (Prime). Daisy Bay. In shallow water, near shore. "A small form" (Sterki).

## GASTROPODA

*Fresh Water Species*

*Amnicola limosa porata* (Say). On Potamogeton in eight feet of water, Daisy Bay. Not common and observed only in this location. The sex dimorphism in the shape of the shell, recorded from the lakes of Wisconsin, was also noted among the *Amnicola* of this lake. The absence of *Campeloma*, *Valvata*, or any other genus of the group is noteworthy. No ctenobranchiate is listed in Grant's paper.

*Lymnaea stagnalis lillianae* F. C. Baker. Shore of Birch Point, Big Bay, in shallow water, on shingle or cobble bottom. Fairly abundant. The shells are like those of the race from the type locality, Tomahawk Lake, Wisconsin, and the same color dimorphism of the animal, black or yellow, was noted. Grant records *Lymnaea stagnalis*, from Tower, but whether this is the true *stagnalis* from pond-like areas near Tower, or the lake race, is not known.

*Stagnicola lanceata* (Gould). Swamp behind beach, Birch Point, Big Bay. Only immature individuals were found and these were fairly abundant.

*Buliminea megasoma* (Say). Recorded from Vermilion Lake by Grant. None seen by the writer.

*Acella haldemani* ('Desh.' Binn.). Recorded as *gracilis* Jay from Vermilion Lake by Grant. None seen by the writer.

*Helisoma antrosa jordanensis* (Winslow). Shores of Big and Daisy Bays, Birch Point, in debris. Not common. The *antrosa* of this lake appear to be referable to this recently-described race, having the flat spire and sides, and angulated whorls of the Michigan form. Recorded by Grant as *Helisoma bicarinata*.

(To be concluded)